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ABSTRACT

Open classroom systems frequently use peer tutoring techniques as a means of individualizing instruction. This study investigated the effects of three variables on tutor and tutee performance: (1) the achievement level of the tutor; (2) brief tutor training in reinforcement and corrective feedback procedures; and (3) tutor expectancy about tutee performance. One hundred and twelve first graders were randomly selected to serve as tutees. Results indicated that both tutors and tutees learned a significant number of words. This positive effect was more pronounced for low achievers than for high achievers. Training of tutors significantly increased the pretest to posttest gains for both tutors and tutees. Peer tutoring guidelines that can be generated from this research include: (1) all children in a class, regardless of achievement level, should be selected to serve in the tutoring role; (2) brief tutor training in basic reinforcement and corrective feedback procedures is essential to an effective peer-tutoring program; and (3) expectancies about tutees' performance may result in less biased teaching behavior by peer tutors than by adult tutors. (SK)

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EFFECTS OF TUTOR TRAINING, ACHIEVEMENT, AND EXPECTANCIES ON PROCESS AND PRODUCT PEER TUTORING VARIABLES

Research Summary

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by

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This summary was prepared to accompany a presentation at Session 4.06 of the 1976 Annual Conference of the American Educational Research Association. A detailed report of this research is available from the Arizona Center for Educational Research and Development and in the ERIC Early Childhood Series. An abstract can be found in Dissertation Abstracts, No. 76-1407.

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Open classroom systems frequently use peer tutoring techniques as a means of individualizing instruction. Peer tutoring provides an opportunity for a one-to-one relationship within an academic context and is often a spontaneous outcome of heterogenous grouping. However, research-derived guidelines for peer tutoring are lacking. Successful peer tutoring programs include tutor training programs; however, suggested tutor training programs are often too time-consuming and expensive for incorporation in typical classrooms. This study investigated the effects of three variables on tutor and tutee performance: 1) the achievement level of the tutor, 2) brief tutor training in reinforcement and corrective feedback procedures, and 3) tutor expectancy about tutee performance.

The distribution of the two hundred and twenty-four first and second graders across the three independent variables is presented in Table 1. One hundred and twelve high and low achieving second graders in a

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INSERT TABLE 1 HERE

Follow Through program (Tucson Early Education Model) were selected as tutors. Half of these tutors were randomly selected to receive two half-hour training sessions. The training was conducted in a small group setting and emphasized two reinforcement and feedback procedures:

1. Respond to each correct answer with a positive comment (e.g., "good", "that's right", etc.).
2. Respond to each incorrect answer by providing the correct answer and then giving the tutee a chance to say the correct answer.

Table 1. Distribution of Subjects Across the Three Independent Variables

		Reinforcement Training		No Training	
		High Achiev.	Low Achiev.	High Achiev.	Low Achiev.
Low Expectancy Instructions	Males	Tr=7 Te=7	Tr=7 Te=7	Tr=7 Te=7	Tr=7 Te=7
	Females	Tr=7 Te=7	Tr=7 Te=7	Tr=7 Te=7	Tr=7 Te=7
High Expectancy Instructions	Males	Tr=7 Te=7	Tr=7 Te=7	Tr=7 Te=7	Tr=7 Te=7
	Females	Tr=7 Te=7	Tr=7 Te=7	Tr=7 Te=7	Tr=7 Te=7

Tr = Tutors
Te = Tutees

One hundred and twelve first graders were randomly selected to serve as tutees. Instructions to tutors prior to the tutoring session contained either high or low expectancies about the tutees' academic performance. The low expectancy instructions were:

> *Since you knew so many of these words, I am going to let you be the teacher. You will be the teacher and help a first grader learn some of these words. If you don't know a word, the picture on the back of the card will help you. You are very smart and know some of these words. But the first grader you are going to help doesn't know as many words as you. These words will be hard for him (her). But even though these words will be hard for him (her), try to help him (her) learn some of the words. Work with him (her) for ten minutes. If you go through all the cards, you can start over again, or you can just work on a few cards. It is up to you. You are the teacher. I will tell you when to stop. Remember, even though these words will be hard for him (her), try to help him (her) learn some of the words.*

The high expectancy instructions were:

> *Since you knew so many of these words, I am going to let you be the teacher. You will be the teacher and help a first grader learn some of these words. If you don't know a word, the picture on the back of the card will help you. You are very smart and know some of these words. The first grader you are going to teach also knows lots of words. These words will be easy for him (her). Since you both are smart, try to help him (her) learn some of these words. Work with him (her) for ten minutes. If you go through all the cards, you can start over again, or you can just work on a few cards. It is up to you. You are the teacher; I will tell you when to stop. Remember, even though these words will be easy for him (her), try to help him (her) learn some of the words.*

Two female experimenters pretested the tutor and tutee simultaneously in separate rooms. After the pretesting and instructions, the tutor and tutee were brought together in a room and told to work on learning some new words. The flash cards used during the peer tutoring were the 30 cards used for pretesting and posttesting. A behavioral observation instrument provided a measurement of tutor teaching behavior: number of cards presented, type and frequency of corrective feedback, positive reinforcement, negative gestures or comments, and providing or accepting a word incorrectly. At the

end of ten minutes, the tutor and tutee played with a pegboard game for five minutes. The tutor and tutee were then posttested on all 30 flash cards.

Analysis of variance was used to analyze the data for both dependent variables (1. pretest to posttest gains, and 2. tutor behavior data) by the three independent variables (tutor achievement level, training of tutor, and expectancies about tutee performance.)

Both tutors and tutees learned a significant number of words. Although this study does not compare peer tutoring with other instructional techniques, benefit to both tutors and tutees from peer tutoring is demonstrated in the data. This positive effect was more pronounced for low achieving than for high achieving tutors. Low achieving tutors had significantly lower pretest and posttest scores than did high achieving tutors. However, both male and female low achieving tutors made significant gains from pretest to posttest. Gains for high achieving tutors are rendered uninterpretable because of the ceiling effect.

Training of tutors significantly increased the pretest to posttest gains for both tutors and tutees. Although there was virtually no difference between the two groups of tutees on the pretest, tutees who worked with trained tutors performed significantly better on the posttest than did tutees tutored by untrained tutors. These data illustrate that an increase in tutoring skills after a minimum of tutor training results in increased achievement. Other indications of the effectiveness of the brief tutor training are that trained tutors demonstrated a significantly higher frequency of the behavioral measures of corrective feedback, and that they provided significantly more verbal reinforcement than did untrained tutors. Training of tutors is obviously a crucial issue for effective peer tutoring.

Achievement of tutors did not yield a significant difference in gains realized by tutees. Low achieving tutors, however, did positively acknowledge a word from the tutee that was incorrect, or provided an incorrect word significantly more often than did high achieving tutors. This significant difference ($p < .05$) is less meaningful when it is known that the low achieving tutors on the average were inaccurate one and one-third times out of seventy cards, and that this inaccuracy had no significant effect on the tutees' gains from the learning situation. The use of self-correcting materials in an applied situation generally allows the tutor achievement level to be irrelevant.

Overall, expectancy did not have an effect on tutee pretest to posttest gains nor on tutor behavior during the tutoring session. There was a significant difference between the pretest scores of tutees about whom tutors had low expectancies and tutees about whom tutors had high expectancies. However, this difference is not evident in posttest data. The fact that posttest scores did not reflect the differences seen in the pretest can be interpreted to indicate that tutors were unbiased in their tutoring behavior and uninfluenced by the experimentally-manipulated expectancies about tutees' performance.

Peer tutoring guidelines that can be generated from this research include: 1) all children in a class, regardless of achievement level, should be selected to serve in the tutoring role; 2) brief tutor training in basic reinforcement and corrective feedback procedures is essential to an effective peer tutoring program; and 3) expectancies about tutees' performance may result in less biased teaching behavior by peer tutors than by adult tutors.

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